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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,671	11/25/2003	Victor Korol	P-6060-US	6256
49444	7590	06/14/2005	EXAMINER	
EITAN, PEARL, LATZER & COHEN ZEDEK, LLP 10 ROCKEFELLER PLAZA STREET SUITE 1001 NEW YORK, NY 10020			SHINGLETON, MICHAEL B	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/720,671

Applicant(s)

KOROL, VICTOR

Examiner

Michael B. Shingleton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8, 9, 12-15 and 19-22 is/are rejected.
- 7) ☒ Claim(s) 5-7, 10, 11, 16-18 and 23-25 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

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DETAILED ACTION*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 19-22 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hornak et al. 5,365,187 (Hornak) as evidenced by IEEE Standard Dictionary of Electrical and Electronics Terms page 169.

Figure 2 and the relevant text of Hornak discloses a “outphasing modulator” having at least two outphased signals V_{206} and V_{207} that are provided to a power amplifier composed of at least amplifier elements 214 and 215. Element 219 forms part of an amplitude modulation controller that is able to vary the amplitude of the at least two outphased signals. The amplitude modulation controller is also able to vary the amplitude of the first and second control signals Y and X, respectively, according to a selected modulation method”. Note that the modulation method used by Hornak is the modulation method selected by Hornak. The claims do not recite selecting a modulation method from a plurality of modulation methods. This modulation method causes the first and second control signals to vary which is analogous to the Figure 5 embodiment of the instant application where both the AM_{low} and AM_{high} control signals vary. With respect to claims like claim 2, the first and second control signals Y and X causes changes in the V_{204} and V_{205} signals thereby causing changes (modulations) in the angle “a(t)” of the at least two outphased signals V_{206} and V_{207} , respectively, so as to provide the desired power level of the power amplifier. Note that this is the basic definition of “outphasing” where the two phase shifted signals are combined to form a composite that varies in amplitude and not in phase. This also is the “selected modulation method” and is “selected” according to a position of the first and second outphasing signals on a complex plane. Note that if the a(t) of the V_{207} signal was different from the a(t) of the V_{206} signal

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then that would be a different modulation method. Also the examiner has provided a copy of the definition of complex plane from the IEEE dictionary for applicant's convenience. This shows that clearly, Figure 3 of Hornak would be considered a complex plane. The device of Hornak is clearly directed toward a wireless communications device for note the antenna in Figure 2. The discussion of columns 1-3 of Hornak makes it clear that Hornak's invention is a "simply substitute of the conventional RF power amplifier" whose use is in mobile stations like mobile wireless phones. Also note that the input signal V_{IN} can be a phase modulated signal (See column 6 around line 13) and that Figure 2 clearly shows the mixer symbol for element 203 and shows this mixer as modulating the phase modulated signal according to the first control signal voltage level Y.

Claims 8 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Sander 6,690,233 (Sander).

Figures 4-8 and the relevant text of Sanders discloses a method for selecting a modulation method. The set of modulation methods includes two modulation methods one modulating the information signal via a switch mode power amplifier and the other modulating the information signal via a LINC system, i.e. an outphasing system. See Column 2, around line 65. Also note that column 1, around line 42 that recites the operation of the LINC which is a description of an outphasing system. The position of the outphasing signal on the complex plane corresponds to a certain output power level. Note that when the output power level is "low" the outphasing (LINC) system is used and thus the output phasing signal will have certain magnitudes and angles on the complex plane. When the output power level is "high" the switch mode power amplifier modulation method is used and this too corresponds to a particular position of the "outphasing" signal on the complex plane, i.e. the "phase of both component signals are correspondingly set to equal the desired phase of the output signal" (See column 4 around line 64). Therefore the selection of the two modulation methods is indirectly based on the position of the outphasing signal on a complex plane. The claim is silent on whether the selection is based on the direct sensing of the position of the outphasing signal on the complex plane and therefore the examiner has applied the broadest reasonable interpretation in light of the specification. In fact it appears that Applicant's invention does not directly sense the position of the outphasing signal on the complex plane (See Figure 2 of Applicant's invention.) Thus the given a fair and reasonable reading of the claims. The first modulation method is selected for a first region of the complex plane where the phase of both components are set equal to the desired phase of the output signal when the output power level is high and the second modulation method for a second region of the complex plane where the signal magnitudes are fixed and the phases are varied when the output power level is low.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hornak et al. 5,365,187 (Hornak) as evidenced by IEEE Standard Dictionary of Electrical and Electronics Terms page 169.

The same reasoning as applied in the above 35 USC 102 rejection above and the following: Hornak is silent on the antenna used and in particular a dipole antenna. As would have been well known to one of ordinary skill in the art, a dipole antenna is a conventional antenna used in communication systems that employ transmitters like power amplifiers. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have replaced the antenna of Hornak with that of a dipole antenna because, as the Hornak reference is silent on the exact antenna circuit one of ordinary skill in the art would have been motivated to use any art-recognized equivalent antenna arrangement for the antenna of Hornak such as the conventional dipole antenna.

Claims 5-7, 10, 11, 16-18, and 23-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note that Cramer 3,170,127 sets forth the definition of outphasing as being "two phase-displaced signals of constant amplitude and varying phase can be added to produce an amplitude-modulated signal of constant phase" (See column 1, around line 25).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is (571) 272-1770.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (571)272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MBS

June 10, 2005

Michael B Shingleton
MICHAEL B SHINGLETON
PRIMARY EXAMINER
GROUP ART/INT 2817